

cor-dill-er-a (*kor-dill-er-ä, kor-dill-er-ä, n*) a chain of mountains, usually the principal mountain system or mountain axis of a large land mass. [*Sp.* mountain chain, *n*, der. *l. cōrdia* rope] — **cor-dill-er-ä-ram, adj.**

Cor-dill-er-as (*kör-dill-er-ä-s, kör-dill-er-ä-s, kör-dill-er-ä-s, pl.*) 1. a mountain system in W. North America, the Andes and its component ranges. 2. a mountain system in W. North America, including the Sierra Nevada, Coast Range, Cascade Range, Rocky Mountains, etc. [*Sp.* the culture-chain of mountain ranges, parallel to the Pacific coast, extending from Cape Horn to Alaska] — **Cor-dill-er-ian, adj.**

cor-dill-er-ian (*kör-dill-er-ä-n, kör-dill-er-ä-n, n*) a chain of mountains, usually the principal mountain system or mountain axis of a large land mass. [*Sp.* mountain chain, *n*, der. *l. cōrdia* rope] — **cor-dill-er-ian, adj.**

30-55°C. The photocuring was performed in a quartz tube furnace, and 5-6 g of mineral salts (Fe^{2+} compound + H_2O_2) were added to the photocuring solution. The rate of chlorination was 1.5-2.0 g of chlorinated product per g of chlorinated salt.

Cordoba (lat/46°01'). *n.* 1. Also, Corden, a tributary of the Guadalquivir river; the capital of Spain under Moorish rule. Famous cathedral, 1432-200 (1340). 2. A city in central Argentina, 330,457 (est. 1940). 3. (a) the Neuenburg monetary unit equivalent to the C.S. gold dollar; b, the Neuenburg equivalent to the C.S. gold dollar.

1. *cordón* a cord; 2. a row or band worn for ornament on a garment; 3. a ribbon worn, usually diagonally across the breast, as a badge of a knighthood or honorary order; 4. a band of soldiers, military posts, or the like, closing or guarding a particular area; 5. *cord*, a projecting or entwining of stamens in the base of a pistil; 6. *verfil*, a string or cord; 11. *h. det. cord* [and] *cordón* *blen* [verifies] *blen*; 1. the sky-blue ribbon worn as a badge by knights of the highest order of Spanish knighthood under the Bourbon; 2. some similar distinction; 3. one entitled to wear the cordón *blen*; 4. any person of great distinction in his field.

2. (c.c.) Distinctive or made of a feather made up, at (c.c.) ends of foot-stalks, and dressed, but later also of split tips of palm-leaf, etc. —*n.* 3. a native or inhabitant of Colombia, Spanish. 4. (c.c.) cottony feather.

COT-DU-TOY (kót-dú-toy, kót-dú-toy). *n.* 1. a cottony fabric with long, wavy cords or ridges. 2. (c.c.) trousers or breeches made of this. —*adj.* 3. of (or) like. 4. constructed of lops laid together transversely, as a road, by laying logs together transversely, as a road, by laying logs together transversely. 5. to make a cottony road, etc. [cf. *ots-dútoy*, a kind

CORE (*kôr*), *n.*, *f.* **cored**, **coring**. —*n.* 1. The central part of a body, or of a body containing the seeds. 2. The central, innermost, or most essential part of anything. 3. *Elect.* a. The piece of iron, bundle of iron wires, or the like, forming the central or inner portion of an electromagnet, induction coil, or the like. b. The armature core of a dynamo machine, consisting of the assembled armature of coils, mounted in a frame.

CORD (*wahd*) (*kôrd* *wahd*), *n.* **Artific.** Cordovan leather. —*adj.* **cordovan**, *cord*. *See* *cordovan*. *See* *cordovan*. *See* *cordovan*.

CORD (*wahd*) (*kôrd* *wahd*), *n.* 1. **Artific.** A worker in cordage or twine. 2. *Obs.* A shoemaker.

formidatō, without the sac inhibition or windings. 4. *formidō*, a body of sand, usually dry, placed in a mold to form openings or five shape a casting. 5, the inside of a wood 6, the base to a casting. 7, the inside of a wood 8, the base to a casting. 9, the inside of a wood 10, the base to a casting. 11, the inside of a wood 12, the base to a casting. 13, the inside of a wood 14, the base to a casting. 15, the inside of a wood 16, the base to a casting. 17, the inside of a wood 18, the base to a casting. 19, the inside of a wood 20, the base to a casting. 21, the inside of a wood 22, the base to a casting. 23, the inside of a wood 24, the base to a casting. 25, the inside of a wood 26, the base to a casting. 27, the inside of a wood 28, the base to a casting. 29, the inside of a wood 30, the base to a casting. 31, the inside of a wood 32, the base to a casting. 33, the inside of a wood 34, the base to a casting. 35, the inside of a wood 36, the base to a casting. 37, the inside of a wood 38, the base to a casting. 39, the inside of a wood 40, the base to a casting. 41, the inside of a wood 42, the base to a casting. 43, the inside of a wood 44, the base to a casting. 45, the inside of a wood 46, the base to a casting. 47, the inside of a wood 48, the base to a casting. 49, the inside of a wood 50, the base to a casting. 51, the inside of a wood 52, the base to a casting. 53, the inside of a wood 54, the base to a casting. 55, the inside of a wood 56, the base to a casting. 57, the inside of a wood 58, the base to a casting. 59, the inside of a wood 60, the base to a casting. 61, the inside of a wood 62, the base to a casting. 63, the inside of a wood 64, the base to a casting. 65, the inside of a wood 66, the base to a casting. 67, the inside of a wood 68, the base to a casting. 69, the inside of a wood 70, the base to a casting. 71, the inside of a wood 72, the base to a casting. 73, the inside of a wood 74, the base to a casting. 75, the inside of a wood 76, the base to a casting. 77, the inside of a wood 78, the base to a casting. 79, the inside of a wood 80, the base to a casting. 81, the inside of a wood 82, the base to a casting. 83, the inside of a wood 84, the base to a casting. 85, the inside of a wood 86, the base to a casting. 87, the inside of a wood 88, the base to a casting. 89, the inside of a wood 90, the base to a casting. 91, the inside of a wood 92, the base to a casting. 93, the inside of a wood 94, the base to a casting. 95, the inside of a wood 96, the base to a casting. 97, the inside of a wood 98, the base to a casting. 99, the inside of a wood 100, the base to a casting.

CORINTHIAN (*korinthian*, *ad.*, *cf.* Corinth, note in ancient times for its artistic adornment, luxury, and licentiousness. 2. *adriatic*, describing or pertaining to literary style. 4. *acetic*, denoting or pertaining to one of the three Greek orders, distinguished by a bell-shaped capital with rows of acanthus leaves and a continuous frieze. See also under *traces* and a continuous frieze. See also under *traces*. — *n.* 5. a native or inhabitant of Corinth. 6. *ad.* the two letters of the Christian community of Corinth. 7. a name of fashion. **CORIO-LEANNUS** (*korio'leannus*, *ad.* 1. *Galus* (see *Galus*) (*Galus* *ad.* 2. *ad.* 3. *ad.* 4. *ad.* 5. *ad.* 6. *ad.* 7. *ad.* 8. *ad.* 9. *ad.* 10. *ad.* 11. *ad.* 12. *ad.* 13. *ad.* 14. *ad.* 15. *ad.* 16. *ad.* 17. *ad.* 18. *ad.* 19. *ad.* 20. *ad.* 21. *ad.* 22. *ad.* 23. *ad.* 24. *ad.* 25. *ad.* 26. *ad.* 27. *ad.* 28. *ad.* 29. *ad.* 30. *ad.* 31. *ad.* 32. *ad.* 33. *ad.* 34. *ad.* 35. *ad.* 36. *ad.* 37. *ad.* 38. *ad.* 39. *ad.* 40. *ad.* 41. *ad.* 42. *ad.* 43. *ad.* 44. *ad.* 45. *ad.* 46. *ad.* 47. *ad.* 48. *ad.* 49. *ad.* 50. *ad.* 51. *ad.* 52. *ad.* 53. *ad.* 54. *ad.* 55. *ad.* 56. *ad.* 57. *ad.* 58. *ad.* 59. *ad.* 60. *ad.* 61. *ad.* 62. *ad.* 63. *ad.* 64. *ad.* 65. *ad.* 66. *ad.* 67. *ad.* 68. *ad.* 69. *ad.* 70. *ad.* 71. *ad.* 72. *ad.* 73. *ad.* 74. *ad.* 75. *ad.* 76. *ad.* 77. *ad.* 78. *ad.* 79. *ad.* 80. *ad.* 81. *ad.* 82. *ad.* 83. *ad.* 84. *ad.* 85. *ad.* 86. *ad.* 87. *ad.* 88. *ad.* 89. *ad.* 90. *ad.* 91. *ad.* 92. *ad.* 93. *ad.* 94. *ad.* 95. *ad.* 96. *ad.* 97. *ad.* 98. *ad.* 99. *ad.* 100. *ad.* 101. *ad.* 102. *ad.* 103. *ad.* 104. *ad.* 105. *ad.* 106. *ad.* 107. *ad.* 108. *ad.* 109. *ad.* 110. *ad.* 111. *ad.* 112. *ad.* 113. *ad.* 114. *ad.* 115. *ad.* 116. *ad.* 117. *ad.* 118. *ad.* 119. *ad.* 120. *ad.* 121. *ad.* 122. *ad.* 123. *ad.* 124. *ad.* 125. *ad.* 126. *ad.* 127. *ad.* 128. *ad.* 129. *ad.* 130. *ad.* 131. *ad.* 132. *ad.* 133. *ad.* 134. *ad.* 135. *ad.* 136. *ad.* 137. *ad.* 138. *ad.* 139. *ad.* 140. *ad.* 141. *ad.* 142. *ad.* 143. *ad.* 144. *ad.* 145. *ad.* 146. *ad.* 147. *ad.* 148. *ad.* 149. *ad.* 150. *ad.* 151. *ad.* 152. *ad.* 153. *ad.* 154. *ad.* 155. *ad.* 156. *ad.* 157. *ad.* 158. *ad.* 159. *ad.* 160. *ad.* 161. *ad.* 162. *ad.* 163. *ad.* 164. *ad.* 165. *ad.* 166. *ad.* 167. *ad.* 168. *ad.* 169. *ad.* 170. *ad.* 171. *ad.* 172. *ad.* 173. *ad.* 174. *ad.* 175. *ad.* 176. *ad.* 177. *ad.* 178. *ad.* 179. *ad.* 180. *ad.* 181. *ad.* 182. *ad.* 183. *ad.* 184. *ad.* 185. *ad.* 186. *ad.* 187. *ad.* 188. *ad.* 189. *ad.* 190. *ad.* 191. *ad.* 192. *ad.* 193. *ad.* 194. *ad.* 195. *ad.* 196. *ad.* 197. *ad.* 198. *ad.* 199. *ad.* 200. *ad.* 201. *ad.* 202. *ad.* 203. *ad.* 204. *ad.* 205. *ad.* 206. *ad.* 207. *ad.* 208. *ad.* 209. *ad.* 210. *ad.* 211. *ad.* 212. *ad.* 213. *ad.* 214. *ad.* 215. *ad.* 216. *ad.* 217. *ad.* 218. *ad.* 219. *ad.* 220. *ad.* 221. *ad.* 222. *ad.* 223. *ad.* 224. *ad.* 225. *ad.* 226. *ad.* 227. *ad.* 228. *ad.* 229. *ad.* 230. *ad.* 231. *ad.* 232. *ad.* 233. *ad.* 234. *ad.* 235. *ad.* 236. *ad.* 237. *ad.* 238. *ad.* 239. *ad.* 240. *ad.* 241. *ad.* 242. *ad.* 243. *ad.* 244. *ad.* 245. *ad.* 246. *ad.* 247. *ad.* 248. *ad.* 249. *ad.* 250. *ad.* 251. *ad.* 252. *ad.* 253. *ad.* 254. *ad.* 255. *ad.* 256. *ad.* 257. *ad.* 258. *ad.* 259. *ad.* 260. *ad.* 261. *ad.* 262. *ad.* 263. *ad.* 264. *ad.* 265. *ad.* 266. *ad.* 267. *ad.* 268. *ad.* 269. *ad.* 270. *ad.* 271. *ad.* 272. *ad.* 273. *ad.* 274. *ad.* 275. *ad.* 276. *ad.* 277. *ad.* 278. *ad.* 279. *ad.* 280. *ad.* 281. *ad.* 282. *ad.* 283. *ad.* 284. *ad.* 285. *ad.* 286. *ad.* 287. *ad.* 288. *ad.* 289. *ad.* 290. *ad.* 291. *ad.* 292. *ad.* 293. *ad.* 294. *ad.* 295. *ad.* 296. *ad.* 297. *ad.* 298. *ad.* 299. *ad.* 300. *ad.* 301. *ad.* 302. *ad.* 303. *ad.* 304. *ad.* 305. *ad.* 306. *ad.* 307. *ad.* 308. *ad.* 309. *ad.* 310. *ad.* 311. *ad.* 312. *ad.* 313. *ad.* 314. *ad.* 315. *ad.* 316. *ad.* 317. *ad.* 318. *ad.* 319. *ad.* 320. *ad.* 321. *ad.* 322. *ad.* 323. *ad.* 324. *ad.* 325. *ad.* 326. *ad.* 327. *ad.* 328. *ad.* 329. *ad.* 330. *ad.*

CORK (cork), *n.* 1. The outer bark, a species of oak (*Quercus suber*), of Mediterranean countries, used for making stoppers of bottles, flasks, etc. 2. The tree itself. 3. something made of cork. 4. a piece of cork, or of any material (as rubber), used as a stopper for a bottle, etc. 5. *slugging* a small boat to heavy up a fishing line or to hinder when a fish bites. 6. *foam*, an outer tissue of bark produced by and exfoliate to the phloem. — *cut* 7. to remove or to with cork by a cork. 8. to stop with, or as with a cork (often fol. by up). 9. to thicken with joints. 10. *cut* 11. *sp.* apply to *slugging* shore with cork. 1. *At the cork* (cut) 12. *in quercus oak* 2. *to with sp. cork* 13.

CORK, (*kork'*), *n.* — **corker** (*kör'ker*), *adj.*

CORK (*körk'*), *n.* 1. A country in S. Eire, in Munster. 360,548 pop. (est. 1943); 1,881 sq. mi. 2. Its county seat; a seaport. 75,484 (est. 1943).

CORK-AGE (*kör'fij'-aj*), *n.* A change made by hotkeeps, etc., for serving liquor not supplied by the house.

CORK CABBINUM. *See* **PHLEBOGEN**.

CORKED (*kör't-*), *adj.* 1. stoppered with a cork. 2. (of wine) tasting of the corks having the flavor spoiled by poor finishing. 3. blackened with burnt corks.

CORKER (*kör'ker*), *n.* 1. one who or that which corks. 2. *Slang*, something that closes a discussion or settles

[illegible][illegible]

oh, look, ooze, out; up, use, urge; a = a in alone;
 at; zh, vision. See the full key on inside cover.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.



about the same time, and with excellent results by means of primitive methods. Mrs. Nancy Barrows, formerly of Connecticut, brought mulberry seed, and silk worn eggs from the East in 1858, planted out mulberry trees, and while waiting for them to grow, when the worms hatched fed them lettuce upon which they thrived well. The following year, 1859, she reeled the silk and wove a dress pattern on a loom made for weaving carpets. This was the first silk dress made in Utah; she also made other articles, and a quantity of sewing silk for her own use. Women from the very first have taken the lead in practical sericulture, and many other women in different places later on made silk for home wear in the same way. Dorinda Robinson, of Farmington, was one of the first to manufacture silk dress good; one of the dresses made by her from the cocoons was on exhibition in the Process department of Woman's building in Chicago.

The elegant silk lace headdress presented to Mrs. Hayes, a souvenir of her visit to Utah in September, 1880, was made of pure silk, raised, reeled and prepared in this city by Mrs. Anna Brown. Competent judges pronounced the silk beautiful and of superior quality. Hundreds of instances could be cited where in isolated cases women have raised from 75 to 100 pounds and more of cocoons, and manufactured the silk for home use and wear; which abundantly proves that the soil and climate are admirably adapted to sericulture; and the many specimens of silk in shawls and other articles shown at the World's Fair (but made years ago) clearly demonstrates the fact.

In 1876 a territorial organization (Mrs. Zina D. H. Young, President) for the purpose of Silk Association (Mrs. Zina D. H. Young, President) for the purpose of promoting the industry and successfully establish the enterprise by means of united efforts. Auxiliary Associations were formed in several counties and women in most instances were the active directors and practical workers; cocoons were raised in large quantities, but the manufacture of silk has not been extensive, because of the lack of suitable modern machinery. Letters received by the Committee from various parts of the Territory verify the statements made in this report, and in a former one, now on file with the Board of Lady Managers. In St. George, Washington County, 300 miles south, of Salt Lake, eleven families raised in two years 1000 pounds of cocoons, and in Santa Clara in the same county four persons raised 82 pounds and twenty persons 750 pounds in the same two years; the best of these were taken by the Department at Washington, D. C.

The handsome silk portieres sent to the Women's building (every thread of them genuine Utah silk) is evidence of the superior quality and fibre of Utah Silk. This silk was raised, reeled and prepared by Mrs. Harris in Weber County. The set of furniture (seven pieces) in the Utah Building in Chicago is upholstered with the silk made and cocoons raised in Davis County and is certainly a pure article; as also the silk flags, scarfs, laces, handkerchiefs, fringes, hosiery, knitting and sewing silk and twist exhibited there. Utah silk was exhibited at the centennial at Philadelphia and examined by experts who attested to its excellence, the only fault being the lack of gloss on account of the primitive processes used in its manufacture. Utah cocoons have been placed on the market in San Francisco and Philadelphia, and pronounced superior in quality. During the year the wages paid to operators by the Silk Associations,

"Heart Throbs of the West," Vol 1: 313-318

Summing up the matter we can only say that we have in this Territory goods exceeding \$3,000,000.

Summing up the matter we can only say that we have in this Territory, women accustomed to the work from France, Switzerland, Italy, Germany, and England, as well as those who have had an experience here and with some encouragement offered in future many thousands of pounds of cocoons might be raised and manufactured with very little outlay. There

Part of Our Utah Silk Industry Exhibit

have been over twenty-eight thousand pounds of cocoons raised in Utah, averaging in value \$1.00 per pound. Gold and silver medals, diplomas and cash premiums have been awarded to silk producers and workers from year to year at the Territorial Fairs.

CANDLES

While the raising of sheep in Early Utah brought happiness to the pioneers because of the supply of meat and wool, the tallow that the sheep supplied for candles was also recognized as a great help. Candles were their means of light. The tanners made the candle mold, small wicks were strung through the mold, which was then filled with heated tallow. After they were cooled, the candles were carefully taken out of the mold.

The pioneers had not been long in their new home in the Rocky Moun-

ains before the necessity for the development of home industries became apparent. Their isolated position and remoteness from sources of supplies, together with the wear and tear of frontier life on equipment and clothing brought about the need of some means of replenishing such articles as had been brought with them. The result was the establishment of many home industries, not for material gain so much as to supply the needs of the people and to make the community self-supporting and independent.

The advice of Brigham Young to the people was that they produce what they consumed. That they do not indulge in expensive luxuries that would involve them in debt, but rather to produce through their own industries every necessary article for home consumption. Consequently manufacture was confined, in the early period, to primitive attempts to produce the most needed articles.

Leather, from which to make shoes, harness, etc., was among the most essential necessities to the workers who plowed the land and produced a livelihood from the soil. At first mocassins were substituted for shoes, being manufactured from the goat, deer, and elk skins, but these did not supply the want efficiently, being unsuitable for use in rain or snow. Real leather of a better quality was needed.

Many difficulties presented themselves in the attempt to open up a leather industry in so undeveloped a region. A variety of materials were needed for tanning the hides, several of which were scarce. Others had to be imported or substitutes found. Still others were difficult to prepare from the natural resources available. The tanning process was tedious and expensive (requiring a great deal of time and handling of the hides). It took months to complete all the operations. Many plans to shorten the time have been tried but such processes usually result in an inferior grade of leather.

"The process generally in use is to remove the hair from the hides, then cleaning them in either pure water or a solution of salt and water. A batch of fifty hides is then placed in a liquor made by steeping 150 pounds of unground native sumac in 260 gallons of water and adding 25 pounds of salt. The hides are kept in the liquor from twenty to twenty-four hours, the length of time depending upon the temperature of the liquor and the condition of the hides. Blood heat is considered the most favorable. After the hides have remained in the salted infusion of sumac the liquor is strengthened by adding about 200 gallons of strong oak or hemlock liquor and 15 pounds of salt. Hides are allowed to remain in the strengthened liquor for the space of from twelve to twenty-four hours. Hides are then withdrawn and placed in about the same quantity of strong cold oak or hemlock liquor containing 20 pounds of salt in solution. After five or six days the hides are withdrawn and placed in the same quantity and quality of liquor but instead of being cold it should be blood warm.

"The latter operation is generally repeated six or seven times or until the hides are completely tanned. While the hides are passing through each stage of the tanning process, repeated handling is necessary.

"The salt sumac liquor is employed for the preparatory opera-

tion, while the common tan liquors are used for the finishing process."

—*Deseret News*, November 1854.

Samuel Mulliner was the first person to begin the tanning business in Salt Lake City. The first leather was made by him from a calf skin and was exhibited at a General Conference of the Church in 1850. Mr. Mulliner's place of business was located on the West side of Main Street a little north of Second South.

"Samuel Mulliner hereby notifies the citizens of Deseret that he has entered the tanning business and solicits the co-operation of all interested in home manufacture. He wishes to state that it will be just as necessary for citizens to bring bark and sumac as it is for the tanners to make the necessary preparations for making leather. Owners of sawmills will please save all the bark they can by stripping all green pine trees which come to their mills.

"Wanted immediately 50 cords of pine or oak bark for which the highest prices will be paid.

"Wanted 1000 weight of sumacs, threshed and cleaned. As the season for peeling bark is nearly past the bark must be produced immediately. For further particulars apply to the subscriber at his shop on E. Temple Street, opposite Reese's store."—*Deseret News*, June 14, 1851.

Another interesting advertisement appeared under date of May 15, 1852:

"Wanted beef and horse hides. Calf, sheep, and dog skins. \$1.50 for large hides; \$1.60 for calf skins, free from cuts and damages. We also want oil from bear, horse, wolf, or dog, or from cattle feet, or we will buy the feet. Pine or oak bark and sumac wanted. Let us have calf skins soon and you can wear boots of home manufacture."

In 1852 a small tannery had been built at Paragonah, which later was forced to cease operations because of Indian hostilities in that section.

Ira Ames and Alexander Brim started in the leather business in 1853. The Ames establishment was near the warm springs while that of Brim was in the First Ward. The Ames property later became known as Pugsley's Tannery. Philip Pugsley had come from Bristol, England, where he had learned the process of jappanning leather, and he went to work in Ames' tannery along with Mr. Isaac Young. The move south interrupted these activities and after returning to Salt Lake, Ames sold out to Mr. Pugsley and moved to Cache Valley. Nobody had peeled bark in 1858 and Pugsley had the only bark in the city. Some of this he sold to others and thus the business was resumed. Several tanneries, however, did not continue.

Other tanneries established before the move were those of Golding and Raleigh in 1855. Wm. Jennings and John R. Winder, also makers of harness, boots and shoes, and Nathaniel Jones and James W. Cummings in 1856, the latter being known as the Fifteenth Ward Tannery.

After returning from the move South, Brigham Young, Feramor Little, and John R. Winder started a tannery on Canyon Creek, Mr. Winder being the manager and practical partner. Brigham Young also operated a saddle and harness shop, and had, on his own premises a shoe shop,

where he employed about a dozen workers who had made boots and shoes for his family and his numerous employees.

Howard, the distiller, and H. E. Bowring, saddle and harness maker, were extensively engaged in the leather trade under the name of Howard and Bowring. Howard's tannery was the original Mulliner's Tannery. These two soon dissolved partnership but each continued in the business, located side by side on Main Street. They manufactured quite a quantity of boots and shoes and carried on a busy saddler's shop.

Richard Margetts, a blacksmith, began the leather business in 1863 and was so successful that he discontinued blacksmithing to devote his entire time to it. He made a great deal of leather belting so much in demand. He discontinued this business after the coming of the railroad and established a brewery.

Tullidge makes the statement that, "undoubtedly, Wm. Jennings was the greatest of the Salt Lake home manufacturers. His large tannery near the Court House was the most conspicuous manufacturing establishment in the city."

In 1866 Lorenzo Snow, in connection with the United Order, established a tannery and leather business in Brigham City, which operated for nine years, producing an excellent quality of leather, the proceeds being from \$8,000 to \$10,000 annually. They also made boots, and shoes, saddles and harness.

Leather establishments were also located in Millard, Sanpete, Weber, Utah and Beaver Counties.

On the whole, the leather industries proved very successful during the early period of Utah's history, even though many difficulties had to be surmounted. The quality of leather was not always the best due to the hurried process of tanning it. In addition to the poor quality of leather it was necessary to make the shoes in the old-fashioned manner, on the lap, which resulted in having to charge very high prices for them—higher even than for the imported article. Even when it became possible to procure some machinery it was difficult to find experienced men to operate the machines. The increased emigration and the high prices of the Civil War stimulated industry and, for a time the demand for leather goods.

With the advent of the railroad, the industry declined. Home made goods could not compete with eastern goods, which were machine made, better in appearance, superior in quality and lower in price. Consequently most of the tanneries suspended operations.

Z. C. M. I. later revived the industry by merging, in 1879, with the Desert Tanning and Manufacturing Association, which was contemplating starting a shoe factory for the purpose of making up leather produced in their tannery. Instead, they joined forces with Z. C. M. I. which was already conducting a shoe factory. The success of this enterprise was largely due to the able management of Mr. W. H. Rowe, for it was not until he became manager of the factory that any satisfactory headway was made in the wholesale manufacture of shoes to compete with the imported article. The first work done here was the stoga shoe, but in time, the factory was able to produce every type of goods except baby shoes.

Through persistent effort, cooperation and unity the business gradually developed into a thriving industry, which with its up-to-date machinery, modern methods, and skilled workmen, stands today a monument to home manufacture in Utah.—*Anna I. Wilson.*

BOOT PEGS

In early days children's shoes were made from the tops of worn-out boots. The last upon which the shoe was fit was made of soft wood. The sole was soaked in water to soften it and nailed to the upper by means of hardwood pegs. These pegs were made by sawing scrub oak across the grain of the wood or in rounds the length of the peg. These were then split into pegs one end of which was sharpened with a pocketknife. This tedious job was done in the evening by the men folks of the family. The pegs sometimes went through the sole and had to be cut off by rubbing a rasp back and forth inside the shoe.

WOODEN UTENSILS

Brother Munk of Manti, used red cedar for keelers, churns and buckets. It was very difficult to find pieces large enough for these things. The reason red cedar is preferable to other wood, is because there is less shrinkage and swelling to it. For meat barrels, tubs, wash boards, etc., he used red pine. Each and all of these things were held together with bands made from green birch twigs of different sizes. They were split with a drawing knife and made in lengths suitable for the things they were to be used for. Some wide, others narrow. Then they were soaked in water until they were pliable. These were held in place by a little willow band. The ends of the birch bands, tapered at the ends so when the two ends were lapped they formed a band the same width all around the vessel. It was necessary to keep all wooden vessels damp for if allowed to dry they fell apart. Wooden spoons, butter paddles, butter bowls, molds, and ever so many things were made from wood. Also wash basins were made from wood.—*Elizabeth Munk.*

HOW ADOBEES WERE MADE IN FILLMORE

The men found a high grade clay, and hauled sand to this place. A pug mill was set up. This was a mixing machine which was worked by hitching a horse to a pole which was fastened to the mill. The horse was then driven around in a circle turning the big wheel which worked the mixer. These mills were similar to the old molasses mill.

One man shoveled the clay and sand in right proportions into the pugmill. There was a hole in the vat and when the mass was at a time. A man consistency it was dropped through the hole, a little mass at a time. A man slapped it into the sand pone, which was the name for the adobe molds. Each pone had from three to six divisions, and could form that many adobes. Another man carried the sand ponies to the yard where he stacked them to dry. He placed the ponies upside down, emptying the adobes. Then he returned the ponies to the second man who refilled them.

The adobes were left until they were dry enough to be placed on each other. They were piled up and allowed to dry a few more days.

Sometimes the adobes were baked into bricks. A slot mold was sometimes used. This was dipped into water before emptying.—*Sadie Rogers.*

PIONEER FENCES

Bull fences and pole fences were about the only kind used in Fillmore in early days.

The bull fence was sometimes called the State and Rider Fence because of its peculiar construction.

The pole fences were made by placing posts in the ground, a few yards apart. A cross pole was nailed to these posts, one near the top and one near the bottom. Other poles were placed as close together as possible, in a vertical position and fastened to the cross poles.

Received this information from John J. Starley, June.

Early Fairs and Jubilees of the State of Utah

Crude were the looms they plied,
With weary hands;
Rough-hewn the plough
That bit the arid lands. . . .
But as they toiled—with hope
Beyond the day—
There loomed in vision,
Endlessly away,
A fair and teeming countryside,
Vast in its reach, subdued
And glorified!

From the very beginning of their frontier life the aim of the Mormon Pioneers was to build a commonwealth, and the purpose of their early fairs was to prove to the world that out of a wilderness could be brought colorful expositions showing nearly every art and industry. They also used their exhibits as a school, that different localities might know of the accomplishments of their neighbors and take the lessons to their own homes. Again, these fairs created a spirit of pride that helped to build a greater Utah. In 1856, only nine years after the arrival of the pioneers, the Deseret Agricultural and Manufacturing Society was organized "With a view of promoting the arts of domestic industry and to encourage the production of articles from the native elements in this territory."

An Act incorporating "The Deseret Agricultural and Manufacturing Society."

Sec. 1. With a view of promoting the arts of domestic industry and to encourage the production of articles from the native elements in the Territory; Be it enacted by the Governor and Legislative Assembly of the Territory of Utah, That the Deseret Agricultural and Manufacturing Society be formed and chartered as follows:

Sec. 2. There shall be a President and six directors, who shall, in the first instance be elected by the joint vote of the Legislative Assembly, and may elect a Treasurer and Secretary, and such other officers as they may deem necessary.

Sec. 3. Said Board of President and Directors are hereby constituted a body corporate with perpetual succession, and shall be known by the name and style of "The Deseret Agricultural and Manufacturing Society," and shall have power to sue and be sued, defend and be defended in all courts of law or equity and may have a seal which they may use and alter at pleasure.

Sec. 4. Said Society have power to make, establish and carry out all needful by-laws not conflicting with the Constitution of the United States and the laws of this Territory and to do and perform all acts necessary for the proper exercise of the powers herein conferred, and for promoting the objects contemplated in this act.

LEATHER

HEBER CITY
Rocky Mountain Leather W Hwy 189 654-3277

LEATHER CLEANING

PARK CITY
Frontier Dry Cleaning 1790 Bonanza Dr 649-1582

LEATHER CLOTHING-RETAIL

PARK CITY
Ambiance 605 Main 649-2343

LEATHER GOODS-RETAIL

PARK CITY
Park City Leather Works 324 Main 649-9424

TANNERY AND SHOE SHOPS

Early pioneers in Heber were without the luxury of a shoemaker, and harness makers were without the facilities of a tannery to produce leather. However, in the spring of 1863 an experienced shoemaker named Gustaf Johnson from Sweden was persuaded to move to Heber and open a shoe trade. He set up shop on the home he built at the corner of First East and Second North. It was not until 1878, however, that a tannery was established. The cooperative project was established by businessmen of the community with John Muir as superintendent and John Holfeltz of Midway as the tanner.

The bark from oak, hemlock and pine trees was used in curing the leather, and was found in abundance in the canyons. However, preparing the leather properly was a long, tedious process and the demand for footwear was so great that usually half-tanned leather was taken from the vats and used. This resulted in loose, flabby shoes in wet weather and hard, stiff leather in dry weather. The tannery building was located near what is now 565 East 2nd North.

Mr. Johnson, the first shoemaker, obtained much leather from the old tannery and made excellent shoes and boots by hand. He continued his trade until he died in 1910. A grandson, Ralph Johnson, learned the trade in the shop and made shoes for friends or relatives, but never worked on a commercial basis.

Alfred Dahlman, another pioneer shoemaker, came from Sweden

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*Ref: Wasatch Wave 23 Dec 1906
"History of Wasatch Stake"*



John Roberts and his son Orson, who provided 67 years of shoe making and mending service to Wasatch County. He opened this store in 1892.

in 1878 where he had learned the trade. He and John Danielson, a harness maker, set up a shop on Hatch Row where he worked for some 22 years. Mr. Dahlman sewed and made the shoes entirely by hand. He turned the ladies shoes inside out to sew them. He, like the other shoemakers, obtained leather from the tannery and later from Z.C.M.I. in Salt Lake City.

John Roberts also served the community as a pioneer shoemaker, doing his work at first by hand, making men's boots as well as men's and ladies shoes and was very competent at his work. He had learned the trade in England coming here in 1892 and worked at his little shop in Heber on First West and Second North for 27 years. After his death his son, Orson, having been trained by his father, continued in the business totaling 67 years shoe mending service by the Roberts family. Orson sold the shop in 1960 to Allen Sabey.

Other shoemakers through the years in Heber have been Carl J. E. Hertell, Royal Ellis and Roe Carlile.

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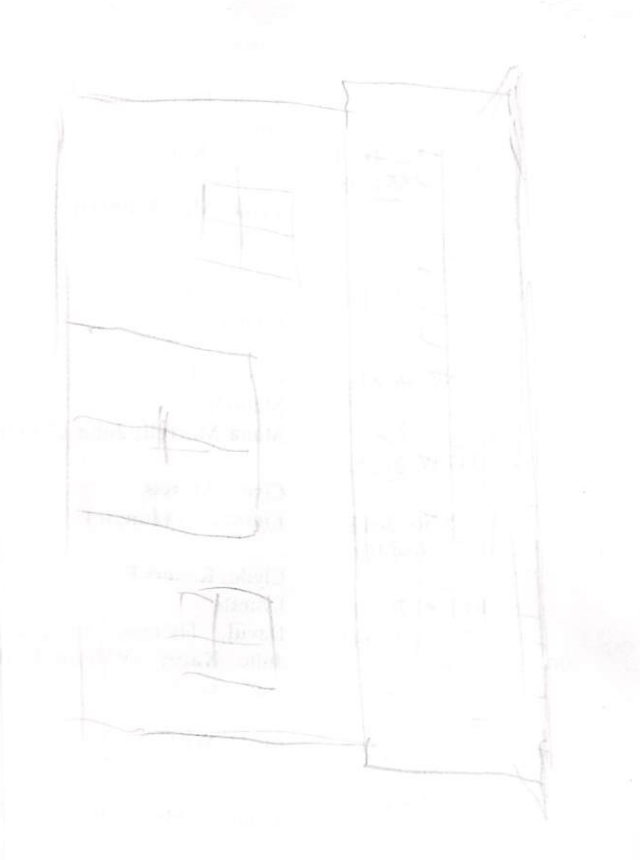
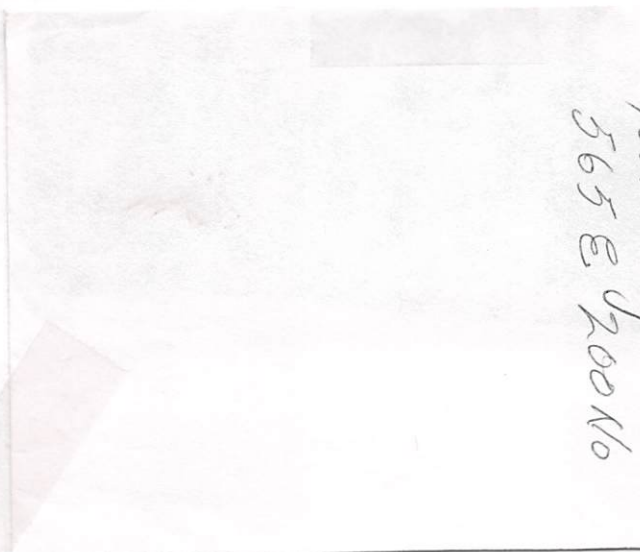
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Site of old
Tannery
565 E 200 N



Site of Old
Tannery
about 565 E 200 N
Heber



Tannery